

XP-002274049

AN - 1994-198979 [24]

AP - SU19904897220 19901227

CPY - GEGER-R

- PETR-R

DC - A14 A96 B04 D16 K07

FS - CPI

IC - C12N15/01

IN - BAKHITOVA L M; OSTROVSKAYA L A; SHEVCHENKO V A

MC - A04-B A04-F A12-W11C A12-W11L B04-C03B B14-H01B B14-M01 D05-H09  
D05-H16 K09-E

M1 - [01] C017 C720 H7 H714 H721 H722 J0 J011 J1 J171 K0 L7 L722 M210 M211  
M212 M213 M231 M262 M273 M281 M283 M320 M423 M510 M520 M530 M540 M640  
M781 M903 M904 P646 Q110 Q233 Q444 V742; R00446-Q R00446-U R08306-Q  
R08306-U

PA - (GEGER-R) GENERAL GENETICS INST

- (PETR-R) PETROCHEM SYNTHESIS INST

PN - SU1808015 A3 19930407 DW199424 C12N15/01 005pp

PR - SU19904897220 19901227

XA - C1994-090997

XIC - C12N-015/01

AB - SU1808015 Method involves i.p. injection of copolymer of N,N-dimethyl,  
N,N-diallylammonium chloride and acrylic acid into mice at the  
limiting permissible concn. over 30 minutes to 2 hrs.

- USE/ADVANTAGE - Used in radiobiology and genetics, and in biology.  
Method protects genome, erythropoiesis, and viability of mammalia  
against mutant action of gamma-radiation.

- In an example, copolymers with different ratios of N,N-dimethyl,  
N,N-diallylammonium chloride (DMDAAC) and acrylic acid (AA) linkages  
were studied. The copolymer with 50% AA was given the name PE-12 (I)  
and that with 67.9% AA PE-13 (II). The mutant effect on mammalia was  
evaluated from the number of induced micro-nuclei in the  
polychromatophilic erythrocytes - reticulocytes, in the mouse brain.  
Method reveals damage to chromosomes induced by gamma-radiation in  
mouse brain erythrocytes. First generation hybrid mice were subjected  
to gamma-radiation for 30 minutes-2 hrs. after which the mice were  
injected i.p. with a copolymer at doses of: 10-75 mg/kg body weight I  
and 50-300 mg/kg body weight II. The max. permissible doses (MPD) for  
I and II were 12-50 and 250 mg/kg body weight respectively. With I at  
the MPD, the number of micro-nuclei in the polychromatophilic  
erythrocytes of the irradiated mice was decreased by 53-55%, and by  
53-5% with II. The DMDAAC polymer at the MPD (25 mg/kg body weight)  
decreased the number of micronuclei only by 42%. The tabulated data  
show that the use of the copolymer with the opt. ratio of DMDAAC and  
AA linkages, i.e. I, gives complete protection of the mice against  
sub-lethal doses of gamma radiation. Moreover, the radio-protective  
effect is achieved by the use of low toxicity erythropoiesis  
stimulating cpd., i.e. I (in contrast to the DMDAAC polymer).(Dwg.0/0)

CN - R00446-Q R00446-U R08306-Q R08306-U

IW - PROTECT MAMMAL ACTION GAMMA RADIATE P INJECTION COPOLYMER DI METHYL N  
N DI ALLYL AMMONIUM CHLORIDE POLYACRYLIC ACID

IKW - PROTECT MAMMAL ACTION GAMMA RADIATE P INJECTION COPOLYMER DI METHYL N

**N DI ALLYL AMMONIUM CHLORIDE POLYACRYLIC ACID**  
**INW - BAKHITOVA L M; OSTROVSKAYA L A; SHEVCHENKO V A**  
**NC - 001**

**OPD - 1990-12-27**

**ORD - 1993-04-07**

**PAW - (GEGE-R) GENERAL GENETICS INST**  
**- (PETR-R) PETROCHEM SYNTHESIS INST**

**TI - Protecting mammals from action of gamma-radiation - by i.p. injection**  
**of copolymer of di:methyl-N,N-di:allyl ammonium chloride and acrylic]**  
**acid**

**A01 - [001] 017 ; R00446 G0282 G0271 G0260 G0022 D01 D12 D10 D51 D53 D58**  
**D60 D83 F36 F35 ; R08306 G0817 D01 D11 D10 D12 D51 D54 D57 D58 D61**  
**D88 F16 CI 7A ; H0022 H0011 ; H0282 ; H0293 ; P0077 ; P0088 ;**  
**- [002] 017 ; ND01 ; Q9999 Q8059 Q7987 ; Q9999 Q8082 ; Q9999 Q8162 ;**  
**K9803-R K9790 ; K9905 ; B9999 B4488 B4466 ; B9999 B4477 B4466 ;**